

## MEMORANDUM

**TO:** Jeff Kivett, Director, Operations, Engineering & Construction Division  
Terrie Bates, Director, Water Resources Division

**FROM:** Akin Owosina, Chief, Hydraulics & Hydrology Bureau  
John Mitnik, Chief, Engineering & Construction Bureau  
Susan Gray, Chief, Applied Science Bureau  
Dean Powell, Chief, Water Supply Bureau

**DATE:** December 11, 2014

**SUBJECT:** Operational Position Statement for Dec 9, 2014 – Dec 15, 2014

The U.S. Army Corps of Engineers (USACE) is responsible for managing Lake Okeechobee water levels and makes operational decisions about whether to retain water or release water based on their regulation schedule release guidance (2008 LORS). The USACE makes this decision taking into account the best available science and data provided by its staff and a variety of partners, which includes the South Florida Water Management District (SFWMD).

The SFWMD team has discussed the system wide environmental conditions, the water supply conditions, and has evaluated the overall status of the water management system. Detailed reports are available at the SFWMD [Operational Planning](#) internet page.

For the period December 9 through December 15, the SFWMD recommendation to the USACE is to implement a 7-day pulse release averaging 1,500 cfs measured at S-79 and no releases from the Lake to the St. Lucie Estuary. This recommendation is in agreement with the 2008 LORS release guidance for this week, which calls for releases of up to 3,000 cfs measured at S-79 and up to 1,170 measured at S-80. The lake stage remains within the Low Sub-band.

2008 LORS Release Guidance (Part C): Given the current Lake Okeechobee stage position, Part C of the 2008 LORS suggests “Up to Maximum Practicable to the WCAs if desirable or with minimum Everglades Impacts”.

Consistent with the LORS release guidance, the USACE is requesting the SFWMD to continue maximum practicable Lake Okeechobee regulatory releases to the WCAs. For the on-coming days, Lake regulatory releases to the WCAs will be treated in STA-1E, STA-1W, STA-2 and STA-3/4. Deliveries into WCA-1 will be balanced with similar releases through the S-10 structures (and/or S-39 if necessary) to maintain stages within Zone A-2. Deliveries to WCA-2A will help moderate the recession rates and deliveries to northwest WCA-3A are still recommended to maintain good hydration with the prevailing dry season conditions. SFWMD is also routing lake releases into the Holeyland and Rotenberger areas through STA-3/4.

Salinities are high in Florida Bay because of low rainfall and low creek flow this wet season. These early dry season conditions pose an increased risk of a Minimum Flows and Levels exceedance and violation for Florida Bay in 2015. Increased freshwater inflows will benefit conditions in Florida Bay.

2008 LORS Release Guidance (Part D): The outcome from Part D of the 2008 LORS release guidance is: “S-79 up to 3,000 cfs and S-80 up to 1,170 cfs”. Release guidance did not change compared to the last two previous weeks.

The USACE is presently conducting a 7-day pulse release averaging 1,500 cfs at S-79 and no releases at S-80, which started 0700 hrs on December 5, 2014 and will end 0659 hrs December 12,

2014. The current release implementation is measured at S-79 and requires that the Lake Okeechobee releases (at S-77) be reduced to account for any local runoff into the Caloosahatchee River (C-43) between S-77 and S-79. This accounting is performed on a daily basis.

According to District scientists, there is no ecological benefit associated with additional inflows into the St. Lucie Estuary from Lake Okeechobee. For the Caloosahatchee Estuary, additional inflows from Lake Okeechobee resulting in mean monthly flows greater than 1500 cfs at S-79 would pose an ecological risk for oysters in the vicinity of the Cape Coral Bridge. Releases from S-79 should be conducted in a pulse pattern, varying in both the magnitude and duration among the pulses, to mitigate potential stratification and phytoplankton accumulation in the water column. This will also help avoid the deposition (settling) of organic matter in the same localized area due to repetitive flow patterns. The attached table contains different pulse release patterns for S-79, in terms of duration and average release, which could be used to implement operations for the period starting on December 12.

Lake Okeechobee scientists also stated lowering of lake stages over the next 30 days would be beneficial to generating a more suitable stage range for the onset of the wading bird season.

## **Summary of System Conditions**

### Weather and Climate

For the period December 2 to December 8, District wide rainfall amount was 0.35 inches. Broward County experienced large rainfall on December 3. Below average rainfall is expected for the coming two weeks.

### Current Conditions and Operations

As of December 9, Kissimmee lakes are at or above their respective regulation schedules as result of rainfall experienced the last week on November. Lake Kissimmee is about 0.1 feet above schedule and current operations will bring the stage back to schedule by December 16. Currently, flow through S-65 is about 1,200 cfs. Inundation depths in the Kissimmee River floodplain have been gradually increasing.

The December 9, 2014 Lake Okeechobee stage (reported by the USACE as the stage on December 8, 2400 hours) was 15.53 feet NGVD. The lake stage had a slight decrease of 0.04 feet over the past week. The lake stage is about 0.11 feet lower than a month ago, about 0.94 feet higher than one year ago and 0.77 feet over the historical average.

Daily release rates at the lake structures, averaged for the week ending December 8, were estimated as 965 cfs at S-77 and 0 cfs at S-308. At the tidal structures, average daily discharges were about 2,216 cfs at S-79 and 0 cfs at S-80. The proportion of S-77 releases in the S-79 flows is about 44%. Lake Okeechobee regulatory releases south were conducted this week through S-352 into STA 1E and 1W, S-351 into STA2 and S-354 into STA 3/4; with STA discharges directed to WCA-1, WCA-2A, NW WCA-3A, Holeyland, and Rotenberger. Regionally, water supply demands are increasing.

Water Conservation Area water levels receded little this past week. The optimum Dry Season recession rate would be between -0.05 to -0.09 feet per week.

### SFWMD Lake Okeechobee Adaptive Protocol (AP) Release Guidance

This week the SFWMD is not applying the Lake Okeechobee Adaptive Protocol release guidance flowchart since the Lake Okeechobee stage is above the Base-flow Sub-band of the 2008 LORS. The Adaptive Protocols process is documented in the District publication Final Adaptive Protocols for Lake Okeechobee Operations (September 16<sup>th</sup>, 2010).

For additional information pertaining to operations history and past recommendations, refer to the archives of LORS-2008 Release Guidance outcomes and operational position statements at [www.sfwmd.gov](http://www.sfwmd.gov) under the Operational Planning topic.

Table 1. Schedules for 7-day and 14-day pulses at S-79

Day	7-day pulses					14-day pulses		
	650 cfs	800 cfs	1000 cfs	1200 cfs	1500 cfs	1000 cfs	1200 cfs	1500 cfs
1	900	1400	1400	1700	2000	800	1000	1300
2	1400	1600	1600	2100	2400	1200	1500	1800
3	1000	1200	1300	1800	2100	1700	2000	2300
4	650	800	1000	1100	1400	2700	3000	3300
5	400	400	800	900	1200	2200	2400	2700
6	200	200	600	600	900	1800	2000	2300
7	0	0	300	200	500	1200	1400	1700
8						800	1000	1300
9						600	800	1100
10						400	600	900
11						300	400	700
12						200	300	600
13						100	200	500
14						0	200	500